CLAIMS

What is claimed is:

1. A method for sending dense wavelength division multiplexing signals on a coarse wavelength division multiplexing infrastructure, the method comprising:

multiplexing a plurality of dense wavelength division multiplexing channels onto an optical signal, wherein each of the dense wavelength division multiplexing channels is of a wavelength that can be superimposed on a bandwidth of a coarse wavelength division multiplexing channel; and

propagating the optical signal onto a fiber optic network, wherein the fiber optic network comprises components that are compatible for use with coarse wavelength division multiplexing signals.

2. The method as defined claim 1, wherein multiplexing the plurality of dense wavelength multiplexing channels comprises superimposing the dense wavelength multiplexing channels on the coarse wavelength division multiplexing bandwidth of said components of the fiber optic network.

3. The method as defined claim 1, wherein the optical signal is propagated onto the fiber optic network at a first node, the method further comprising the act of removing the optical signal from the fiber optic network at a second node.

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4. The method as defined claim 3, wherein the first node and the second comprise separate nodes within a metro area network.

5. The method as defined claim 3, wherein the first node comprises a carrier hotel site that provides data services to the second node.

6. The method as defined claim 3, wherein the first node comprises a four-channel mux/demux for sending and receiving data on up to four CWDM channels and the second node comprises an optical add delete multiplexer for sending and receiving data on a specific CWDM channel.

7. The method as defined claim 6, wherein the first node further comprises a switch for routing data services communicated over the specific CWDM channel.

8. The method as defined claim 1, wherein the coarse wavelength division multiplexing channel is selected from the 1510, 1530, 1550, and 1570 nm CWDM channels.

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9. An optical system for use in sending dense wavelength division multiplexing (DWDM) signals on a coarse wavelength division multiplexing (CWDM) infrastructure, the system comprising:

a first DWDM multiplexer for receiving a first plurality of DWDM signals and multiplexing the first plurality of DWDM signals into a first multiplexed signal, wherein each of the DWDM channels is of a wavelength that can be superimposed on a bandwidth of a CWDM channel; and

a CWDM multiplexer for receiving a plurality of signals over separate bandwidths of CWDM channels and multiplexing the plurality of signals into a second multiplexed signal for insertion into a fiber optic network, wherein one of the plurality of signals is the first multiplexed signal.

10. The system as defined claim 9, wherein the first DWDM multiplexer and the CWDM multiplexer are part of a first node within a metro area network.

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11. The system as defined claim 10, wherein the second multiplexed signal is received at a second node in the metro area network, the second node comprising:

an optical add delete multiplexer configured to remove the first multiplexed signal from the second multiplexed signal and add a fourth multiplexed signal to the second multiplexed signal; and

a DWDM multiplexer/demultiplexer configured to receive the first multiplexed signal, demultiplex the first multiplexed signal into the first plurality of individual DWDM signals, multiplex a second plurality of individual DWDM signals into the fourth multiplexed signal, and communicate the fourth multiplexed signal to the optical add delete multiplexer.

12. A system as defined in claim 9, further comprising a second DWDM multiplexer configured to receive a second plurality of DWDM signals and multiplex the second plurality of DWDM signals into a third multiplexed signal, wherein each of the second plurality of DWDM signals is of a wavelength that can be superimposed on the same bandwidth of a CWDM channel as the first multiplexed signal, wherein the optical add delete multiplexer is configured to receive the third multiplexed signal and superimpose the third multiplexed signal with the second multiplexed signal over the same bandwidth channel as the first multiplexed signal.

13. A system as defined in claim 9, further comprising a plurality of DWDM transceiver modules in communication with the DWDM multiplexer.

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14. A system as defined in claim 13, wherein the DWDM transceiver modules comprise GigaBit Interface Converters.

15. The system as defined claim 13, further comprising a switch in communication with the DWDM transceiver modules for routing data to and from other optical and/or computing devices.

16. The system as defined claim 9, wherein the first DWDM multiplexer comprises a multiplexer/demultiplexer module.

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17. An optical system for use in sending dense wavelength division multiplexing (DWDM) signals on a coarse wavelength division multiplexing (CWDM) infrastructure, the system comprising:

a first DWDM multiplexer configured to receive a first plurality of DWDM signals and multiplex the first plurality of DWDM signals into a first multiplexed signal, wherein each of the DWDM channels is of a wavelength that can be superimposed on a bandwidth of a CWDM channel; and

an optical add delete multiplexer (OADM) configured to receive the first multiplexed signal from the first DWDM multiplexer and superimpose the first multiplexed signal onto a second multiplexed signal that comprises a plurality of CWDM signals.

18. The system as defined claim 17, wherein the first DWDM multiplexer and the OADM are part of a first node within a metro area network.

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19. The system as defined claim 18, wherein the second multiplexed signal is received at a second node in the metro area network, the second node comprising:

a CWDM demultiplexer for receiving the second multiplexed signal, removing the first multiplexed signal from the second multiplexed signal, and adding a fourth multiplexed signal to the second multiplexed signal; and

a DWDM multiplexer/demultiplexer for receiving the first multiplexed signal from the CWDM demultiplexer, demultiplexing the first multiplexed signal into the first plurality of DWDM signals, multiplexing a second plurality of DWDM signals into a fourth multiplexed signal, and communicating the fourth multiplexed signal to the CWDM demultiplexer.

20. A system as defined in claim 17, further comprising a second DWDM multiplexer configured to receive a third plurality of DWDM signals and multiplex the third plurality of DWDM signals into a third multiplexed signal, wherein each of the third plurality of DWDM signals is of a wavelength that can be superimposed on the same bandwidth of a CWDM channel as the first multiplexed signal, wherein the optical add delete multiplexer is configured to receive the third multiplexed signal and superimpose the third multiplexed signal to the second multiplexed signal over the same bandwidth channel as the first multiplexed signal.

21. A system as defined in claim 17, further comprising a plurality of DWDM transceiver modules in communication with the first DWDM multiplexer.

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22. A system as defined in claim 21, wherein the DWDM transceiver modules comprise GigaBit Interface Converters.

23. The system as defined claim 21, further comprising a switch in communication with the DWDM transceiver modules for routing data to and from other optical and/or computing devices.

24. The system as defined claim 17, wherein the first DWDM multiplexer comprises a multiplexer/demultiplexer module.

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